

Memory Updating for Digital Pixel Sensors

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ABSTRACT

An improved technique for updating a memory in digital pixel sensors in which a memory update may be directed to only some of the locations or cells in the memory is disclosed. According to one embodiment, a multiplex scheme is employed, in which a threshold memory identifies the locations within a row of memory that are to be updated. Data are first read out of a row of memory to be updated. The data are copied to a first buffer or other short term storage area within the digital pixel sensor. New data from the sensor portion of the digital pixel sensor to be written to the memory are stored in a second buffer. The contents of the threshold memory are then applied to a select input of a multiplexer, where the contents of the first and second buffers comprise first and second data inputs to the multiplexer. Thus, the output of the multiplexer comprises an updated row of memory in which only those locations that are to be updated have been changed. The output of the multiplexer is preferably written directly back to the memory and a next row of memory may then be updated.